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LISBON VALLEY MINING CO

PLAN OF OPERATIONS

Lisbon Valley Mining Company LLC

Lower Lisbon Valley Project

UTU-72499

Prepared By:

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Div. of Oil, Gas & Mining

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1.0 Introduction

Lisbon Valley Mining Company, LLC (the Company) proposes to expand its current mining operations in San Juan County, Utah (**Figure 1-1**). Presently, the Company mines copper-bearing ore through open pit mining methods under a Record of Decision issued by the Moab Field Office of the Federal Bureau of Land Management in 1997. The Record of Decision, with File Number UTU-72499, is further supported by the Company's Large Mining Operation Permit with the Utah Division of Oil, Gas and Mining, which has the File Number M/037/0088, and the Company's Ground Water Discharge Permit with the Utah Division of Water Quality, which has the File Number UGW370005. The Company also maintains other permits as referenced in this Document. Under the existing mining permits, the Company open pit mines copper bearing ore which is stacked on the Company's existing double lined, heap leach facility where it is treated with low pH solution. Ore greater than ten inches in size is segregated and crushed to minus four inches then is also stacked on the leach pad and treated with low pH solution. The resultant copper-laden solution is piped to various solution collection ponds for further processing. The copper-laden solution exiting the heap leach pad is segregated into high-concentration solution, called pregnant-leach solution (PLS), and low-concentration solution, called intermediate leach solution (ILS). The ILS is re-circulated back onto the heap leach facility, and the PLS is pumped from the solution collection pond to the process facilities, where it first undergoes a solvent-extraction beneficiation method. This method concentrates the copper into a copper sulfate in solution for final processing. The copper sulfate in solution is then sent to an electrowinning circuit where the copper is plated onto steel cathodes. The final product of the operation is 99.999% pure copper cathode.

The current Active Mining Plan Boundary, as defined by the 1997 ROD and amended as recently as 2019, is approximately 4,480 acres. Within that 4,480-acre Plan Boundary, the Company is approved for disturbance of up to 1,232 acres (**Figure 1-2**).

The Company is proposing to expand operations into the area termed Lower Lisbon Valley (LLV), which is located southeast of the existing operations. Under the Company's Plan of Operations as described in more detail below, the proposed expansion would include an LLV Plan Boundary encompassing approximately 5,683 acres (**Figure 1-3**). Within that 5,683-acre Plan Boundary, the Company would construct open pits, waste dumps, access roads, well fields, power lines, pipeline corridors, heap leach facilities, and ancillary supporting facilities. All beneficiation following the initial leaching would be performed in the Company's existing SX/EW Process Facilities and buildings.

2.0 Operator Information – 3809.401(b)(1)

2.1 Facility Name & Contact Information

Applicant & Company Representative

Name: Lisbon Valley Copper Project

Signatory: George Shaw
Director & Chairman

Physical Address: 920 South County Road 313
La Sal, Utah 84532

Mailing Address: PO Box 400
Moab, UT 84532

Phone: (435) 686-9950

E-mail: gshaw@lvmholdings.com

Local Representative: Alysen Tarrant, Environmental Manager
Lisbon Valley Mining Company, LLC

Physical Address: 920 South County Road 313
La Sal, Utah 84532

Mailing Address: PO Box 400
Moab, UT 84532

Phone: (435) 686-9950

E-mail: atarrant@lisbonmine.com

Registered Utah Agent

Name: Lisbon Valley Mining Company, LLC

Registered Utah Agent: Ken Garnett, Corporate CFO & Officer with Delegation of Authority
11 Edgewater Drive
Old Greenwich, CT 06870

Phone: (203) 249-4125

E-mail: ken.garnett@gmail.com

2.3 Landowner Information

2.3.1 Surface Landowners:

- Lisbon Valley Mining Co LLC (LVMC)
PO Box 400
Moab, UT 84532
435-686-9950

- Bureau of Land Management (BLM)
Moab District Office, 82 East Dogwood
Moab, UT 84532
435-259-2100
- State of Utah, School and Institutional Trust Lands Administration (SITLA)
675 East 500 South, Suite 500
Salt Lake City, UT 84102
801-538-5100

2.3.2 Mineral Owners:

- Lisbon Valley Mining Company LLC
PO Box 400
Moab, UT 84532
435-686-9950
- Bureau of Land Management (BLM)
Moab District Office, 82 East Dogwood
Moab, UT 84532
435-259-2100
- State of Utah, School and Institutional Trust Lands Administration (SITLA)
675 East 500 South, Suite 500
Salt Lake City, UT 84102
801-538-5100
- Steve & Mary Lou Kosanke
PO Box 8164
Hualapai, AZ 86412
- Lisbon Copper Ltd.
C/O Raymond Kunkel
6503 South 1090 West
Murray, UT 84111
- Tintic Uranium
1111 Walker Center
Salt Lake City, UT 84111
- JF and Joyce Costanza
484 Sundial
Moab, UT 84532
- Boyd C Brinton
677 Holiday Drive

Brigham City, UT 84302

- Suzanne Brinton Strong
1039 Vista View
Salt Lake City, UT 84108
- Marva K Loebe
2 Lakeshore Dr.
Salem, SC 29676
- Carole L Steel
611 Fenimore St.
Winston Salem, NC 27103

2.4 Claim & Lease Information

Table 2-1 below shows the list of claim and lease information within the Active Mine and LLV Plan area. As shown in Section 2.3 above, the landownership in the area is a mixture of private, state, and public lands.

Table 2-1: Surface & Mineral Lease Information for the Active Mine and LLV Plan Area

Ownership	Contract type	Identification	Description
Federal BLM	BLM File	UTU77879	BLM File Number
State SITLA	Lease	ML 17661	Section 36 30S / 25E
State SITLA	Lease	ML 20569	Section 36 30S / 25E
State SITLA	Lease	ML 53127	Section 32 30S / 26E
State SITLA	Lease	ML 53430-OBA	Section 16 31S / 26E
BLM	Unpatented Claims	Multiple	See Appendix A

BLM unpatented claims are located in Appendix A.

3.0 Description of Operations – 3809.401(b)(2)

Current Operations

The Company is a privately-owned limited liability corporation in the business of mining and beneficiation of copper-bearing ore. The Company owns and operates a copper mine and associated process facilities in San Juan County, Utah (**Figure 1-1**). The Company obtained ownership of the Lisbon Valley Copper Project (the Project) in 2009. Prior to that, the Project was operated by Constellation Copper Corporation, who declared bankruptcy in 2008.

The Company has operated the Project since it obtained ownership in 2009. Operations include the creation of open pits and/or the expansion of existing open pits to extract copper-bearing ore. The construction of open pits involves blasting of the ore and waste material. The waste material is hauled to existing waste dumps, or is used to backfill existing pits. The ore is hauled to the existing heap leach facility

where it is stacked in 10-15 foot lifts. Ore greater than 10 inches in size is segregated and crushed to minus four inches then also stacked on the heap leach facility. Copper is extracted from the ore by use of low pH leaching. The resultant copper-bearing solution is then sent to the process facilities where it undergoes solvent extraction and electrowinning (SX/EW) processing. The final product is copper cathode of a 99.999% purity. Detailed information about the mining and beneficiation processes can be found in the Company's Notice of Intent (NOI) for Large Mining Operations (LMO) filed with the Utah Division of Oil, Gas and Mining (DOGM).

The Company operates the current open pits and facilities under a number of environmental permits with Local, State, and Federal agencies. **Table 3-1** below is a summary of all environmental permits applicable to the Plan area.

Table 3-1: Environmental Permits held by the Company for the mining and beneficiation of copper ores

Issuing Agency	Permit or License	Status
Federal Bureau of Land Management Moab Field Office	Record of Decision for Large Mining Activities (UTU-72499)	Approved for LVMC; modification in process for LLV expansion
	Lower Lisbon Valley Exploration Plan of Operations (UTU-77879)	Approved; annual reporting & disturbance updates ongoing
US EPA Region 8	Aquifer Exemption (Class III Wells)	In Process
	RCRA Small Quantity Generator (UTR000008672)	Approved and in good order
Utah Department of Environmental Quality	NPDES Industrial Stormwater Permit (UTR00737)	Approved for LVMC; modification in process for LLV expansion
	Class III UIC Permit	In Process
	Ground Water Discharge Permit (UGW370005)	Approved for LVMC; modification in process for LLV expansion
	Approval Order for Emissions Source (DAQE-AN114620014)	Approved for LVMC; modification in process for LLV expansion
Utah Department of Natural Resources	Large Mining Permit (M/037/0088)	Approved for LVMC; modification in process for LLV expansion
	Reclamation Contract (M/037/0088)	Approved for LVMC; modification in process for LLV expansion
	Exploration Permit (E/037/0115)	Approved; annual reporting & disturbance updates ongoing
	Water Rights 05-2593; 05-762	Approved and in good order
San Juan County	Conditional Use Permit	Approved for LVMC; in process for LLV expansion
	Building Permit	Approved for LVMC; in process for LLV expansion

Proposed Operations

The Company is proposing to expand the current operations of open pit mining and beneficiation within the LLV Plan Boundary, as well as initiate the extraction of copper through an in-situ recovery (ISR) process. The LLV Plan Boundary is currently permitted for exploration and has been operated in that fashion since 2009. The proposed activities that would occur within the LLV Plan Boundary, in addition to ongoing exploration, would include the following components, the disturbances of which are summarized in **Table 3-2** below:

- Open pits;
- Waste rock storage (WRS);
- Storm water diversion channels, sediment basins, and berms;
- Heap leach pad (HLP);
- Solution pipelines;
- Access roads;
- ISR Wellfields (injection wells, pump-back wells, monitor wells);
- Exploration activities; and
- Ancillary facilities including: power supply; reagent, fuel, ready line; crushing area and related stockpiles; area for temporary storage of petroleum-contaminated soils; ground water monitoring wells; water supply pipeline and facilities; and construction laydown yards.

Table 3-2: Anticipated Disturbance for the LLV Proposed Action

Disturbance (acres)	Total Disturbance Acres	Disturbance Acres BLM	Disturbance Acres Private	Disturbance Acres SITLA
Open Pit	250	250	-	-
WRS	175	107	68	-
Growth & Media Stockpiles	85	63	22	-
HLP	170	110	60	-
HLP Storm Pond	12	-	12	-
Solution Ponds	60	-	60	-
Drainage Diversion Channels & Overflow Ponds	20	12	8	-
ISR Wellfields	175	70	70	35
ISR Roads & Pipeline	250	100	100	50
Ancillary Facilities	30	12	18	-
Primary Access Roads	40	14	24	2
Exploration (ongoing)	60	25	30	5
TOTAL DISTURBANCE ACRES	1,327	763	472	92

The Proposed Operation has an anticipated mine life of up to 26 years.

Of the anticipated disturbance, only a fraction would be considered permanent. **Table 3-3** summarizes the proposed disturbances by anticipated duration:

Table 3-3: Anticipated Disturbance Duration for the LLV Proposed Action

Disturbance (acres)	Total Disturbance Acres	Temporary (1)	Short Term (2)	Long-Term (3)	Permanent (4)
Open Pit	250	-	150	-	100
WRS	175	-	175	-	-
Growth & Media Stockpiles	85	-	85	-	-
HLP	170	-	170	-	-
HLP Storm Pond	12	-	-	12	-
Solution Ponds	60	-	-	60	-
Drainage Diversion Channels & Overflow Ponds	20	-	-	-	20
ISR Wellfields	175	120	-	55	-
ISR Roads & Pipeline	250	-	180	70	-
Ancillary Facilities	30	-	30	-	-
Primary Access Roads	40	-	20	20	-
Exploration (ongoing)	60	60	-	-	-
TOTAL DISTURBANCE ACRES	1,327	180	810	217	120

(1) Temporary: any disturbance with an anticipated duration of less than the duration of the Project

(2) Short-Term: any disturbance that would last for the duration of the Project

(3) Long-Term: any disturbance that would last for a period following reclamation of the Project

(4) Permanent: any disturbance that would be permanent

As seen in **Table 3-3**, the overall long-term and permanent disturbance anticipated to occur as an effect of the Proposed Action is approximately 25 percent.

As the Lone Wolf Pit will be located on public lands, the anticipated permanent disturbance which would occur on public lands is approximately 112 acres (100 acres of permanent disturbance related to open pit high walls, and 12 acres of permanent disturbance related to diversion channels and overflow ponds).

No disturbance related to the ISR activities is anticipated to be permanent.

3.1 Maps

Figure 1-1	General Location Map
Figure 1-2	Active Plan Boundary Map
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Figure 3-6a	Lone Wolf ISR Activities
Figure 3-7	Flying Diamond ISR Activities

3.2 Operating Plan & Process Design

The Operating plan for the Proposed Operations is as follows:

The Company will continue to extract the remaining copper resources in the current open pits within the Active Mine Plan Boundary. The open pits within the Active Mine Plan Boundary have an existing resource, mineable under the approved permits, of 7.8 million ore tons containing 64.9 million copper pounds (as of December 31, 2018). The life of mine (LOM) of the open pits within the Active Mine Plan Boundary is estimated to be five years (LVMC, 2019).

As the open pit mining activities continue within the Active Mine Plan Boundary, the Company will initiate construction of the LLV facilities. This construction phase is anticipated to last anywhere from 4-6 months, and will include the construction and installation of the following facilities:

- HLP lined containment and solution ditches;
- Process ponds;
- Water lines;
- Solution lines;
- Installation of additional monitor wells;
- Ancillary facilities; and
- Improvement of access roads;

Also during the construction phase, the Company will install the first injection and production wells for the commencement of the pilot test for the ISR in the GTO pit area and Lone Wolf Extent (**Figure 3-1, Figure 3-3**). This disturbance will occur within the Active Mine Plan Boundary for the most part.

The pilot test for the GTO and Lone Wolf ISR is anticipated to last the duration of the construction phase. At the end of the pilot test, the data derived will be used to fine-tune the installation of the ISR wellfields in their entirety. The installation of the ISR wellfields would occur in conjunction with open pit mining operations.

Topsoil removal related to the construction activities is anticipated to be stored in designated topsoil stockpiles, with the exception of the ISR wellfields and roads, which will have windrows of topsoil along the roads and pad extents. A soils survey and characterization of soil types and depth is scheduled to be performed as part of this Plan of Operations. The results of the soil survey will direct the Company in the depth of soil that is salvageable, and also the type of soil that is being salvaged and thus build an appropriate interim seed mix for seeding the topsoil stockpiles during their existence for the extent of the life of the operations.

Open Pit Mining (Figures 3-3, 3-5)

Open pit mining is anticipated to occur in only one open pit within the LLV Plan Boundary. This pit, called the "Lone Wolf Pit", has an estimated mineable resource of 20 million tons, containing 125 million pounds of copper. The mine design for the Lone Wolf pit would utilize a small waste dump for the initial removal of overburden, with the remaining waste used to backfill the pit as mining is phased. The anticipated amount of overburden to be removed and stockpiled in a WRS facility is 32 million tons. The anticipated amount of overburden to be used to backfill the Lone Wolf Pit is 65 million tons. The amount of material

to be backfilled is largely dependent upon the geochemistry of the rock types encountered, as summarized in the Company's Waste Rock Management Plan.

As is currently employed within the Active Mine Plan Boundary, open pit mining will be performed by conventional open pit mining methods. Ore and waste are drilled, blasted, loaded and hauled by front end loaders and haul trucks. Run of mine (ROM) ore is mined and placed directly on the HLP following strict ore control procedures. The mine operates on a schedule of one or two 12-hour shifts per day, seven days per week, and 52 weeks per year depending on market conditions and mine plan. The Company's equipment fleet is sized to meet a production rate of up to 44,000 tons per day.

Waste from the mining activities are either placed as in-pit backfill, or hauled to designated WRS facility. The waste is categorized by geologic bed, which is then correlated to the Company's comprehensive database of geochemical properties for the different geologic beds that occur within the localized geographical region. The type of waste that is encountered during active mining is segregated by bed and geochemical properties and placed in the appropriate location per the Company's existing Waste Rock Management Plan.

Ore from the mining activities is hauled to the HLP. The Company has an existing HLP with capacity to contain all ore projected to be mined from the Active Mine Plan Boundary. Additional ore extracted from the Lone Wolf Pit will be placed on a newly constructed HLP within the LLV Plan Boundary. Solution from the treatment of the ore on the HLP will be stored in designated process ponds where the solution will either be recycled back onto the HLP (as ILS) or piped to the existing process facilities for final beneficiation (as PLS).

As with the construction phase, initial disturbance related to the open pit, WRS, HLP, and associated ponds will include the removal and storage of topsoil in designated topsoil stockpiles.

ISR (Figures 3-4, 3-6, 3-6a, 3-7)

ISR activities will include the construction of access roads and well pads. The well pads will be constructed in a grid-like pattern deemed a 'five-spot' in which there will be one production well centered within four injection wells, with each injection well spaced approximately 150 feet apart from the next, and the production well centered in the middle of the injection well 'box'. Each well pad will have an estimated disturbance footprint of 50 feet by 50 feet. This disturbance would be temporary for the installation of the well and piping only. After the wells are drilled and installed, the pads would be reclaimed back to a size of 30 feet by 30 feet. Access roads would have an average width of 14 feet for standard roads, and 30 feet for roads with solution pipelines.

The Company projects construction of approximately 400 well pads spaced approximately 150 feet apart, with each alternating row of well pads offset laterally by 75 feet in order to create the 'five-spot' pattern targeting copper recovery from the GTO copper deposit within the existing permitted Active Mine Boundary.

ISR within the LLV Plan Boundary would include the construction of approximately 2,300 well pads spaced approximately 150 apart, with each alternating row of well pads offset laterally by 75 feet in order to create the 'five-spot' pattern. There are two locations chosen within the LLV Plan Boundary in which to install the ISR well fields. These two locations target the Lone Wolf Extent and the Flying Diamond copper deposits.

Also included with the proposed ISR project for GTO, Lone Wolf Extent, and Flying Diamond would be the installation of monitor wells. The disturbance associated with the installation of the monitor wells would be similar to the well pads in initial and final disturbance footprints. The number and location of the monitor wells associated with the ISR activities will be determined in coordination with UDEQ.

Based on exploration drilling that has occurred within the LLV Plan Boundary, as well as the information known already about the GTO ore extent, the Company has engineered extractable resource estimates through the use of ISR technology. Additionally, the Company has performed numerous successful metallurgical studies on the projected recovery of the in-situ copper resource. The Company estimates the combined ISR resource of the GTO, Lone Wolf Extents, and Flying Diamond deposits of 507 million pounds of copper. The Company estimates an additional 316 million pounds of expected copper resource across these three deposits that is subject to further definition drilling by the Company's geologic team.

Ancillary Facilities & Vehicle Maintenance

Due to the Company's current onsite facilities, minimal disturbance related to ancillary facilities and workshops for vehicle maintenance is anticipated. The Company plans on using all of its existing buildings and its SX/EW plant for the duration of the LLV LOM.

Exploration

As mining continues by open pit and ISR methods, exploration will continue within the LLV Plan Boundary. Exploration activities would concur with the existing Exploration Plan.

3.3 Water Management Plan

The Company maintains a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Utah Pollutant Discharge Elimination System (UPDES) Permit UTR 000737 and UPDES General Multi-Sector General Permit (MSGP). The MSGP authorizes storm water discharges related to Industrial Activities, Group 3, Sector G (Metal Mining). The Operation is and will continue to be considered an "Active Metal Mining Facility" (AMA) under the MSGP, and subject to Pollution Prevention Plan Requirements.

The SWPPP describes pollution prevention and control practices designed to minimize the contact of storm water with "significant materials", and thereby avoiding impacts, or otherwise manage water after such contact, so there is no discharge.

The Company avoids impacts to surface water systems through implementation of best management practices (BMP) in accordance with the SWPPP. BMPs are developed to minimize the potential for non-point source pollution to surface waters.

BMPs include both structural and non-structural controls. Structural controls include:

- Diversion
- Retention
- Erosion and Sediment Control
- Stabilization
- Energy Dissipation
- Structural control methods are implemented to site conditions, and modified as site conditions change with on-going mine development. These include:

- Diverting runoff away from roads and other denuded areas by using berms, ditches, and other functionally equivalent diversions.
- Preparation of road drainages and outlets by removing fugitive outfalls and consolidating runoff into designed outfall structures that are capable of managing the expected runoff volume.
- Reducing runoff velocities by using energy dissipation devices and minimizing grade.
- Trapping sediment on-site in sediment ponds, sumps, and other functionally equivalent structural controls.
- Capturing runoff, when practical, to eliminate the potential for storm water discharges.
- Maintaining redundant, standby power supply.

Diversion channels and retention ponds comprise the primary structural controls, and will continue to do so during the planned disturbance within the LLV Plan Boundary.

Non-structural controls include maintenance, spill prevention & response, inspections, training, and record keeping. These controls are detailed in Section 3.5 below.

Open Pit Mining

As open pit mining progresses within the LLV Plan Boundary, diversion channels will be constructed in order to divert precipitation runoff away from the proposed pit, WRS, HLP, and ponds, together representing the LLV mining area. The Company has recently completed a detailed survey of the LLV Plan Boundary, and generated watershed maps for the areas of proposed activities. Using this data, the Company will construct diversion channels and catchment basins in adequate size and frequency in order to ensure no runoff of precipitation from the active mining area would go beyond the mine boundary.

The LLV Plan Boundary is arid in nature, with net evaporation rates of 24.35 inches per year (Whetstone 2018). The arid climate in which the project is located lends itself to low amounts of precipitation and high evaporation rates. This climate also accounts for the lack of perennial streams or seeps at or near the project area. Because of this, the Company does not anticipate major construction disturbance related to the re-routing of diversion channels around the anticipated active mining area. Moreover, as water is seen as a necessary commodity for the operation, the Company will strive to store any and all precipitation that is intercepted within the active mining area in order to put it toward beneficial use such as dust control and beneficiation activities.

Where roads cross drainages with the potential to carry significant amounts of precipitation during major storm events, culverts will be installed as a means to mitigate runoff and prevent washouts of roads. The culverts will be sized appropriately to ensure an uninterrupted flow of water during major storm events.

ISR

As disturbance related to ISR is composed of roads and pads, no management of water intercepting the well pads is planned. If necessary, the sumps used during the initial installation of the wells may remain in-place as storage for precipitation encountered during the operation of the wellfields. For the most part, the well pads and roads will conform with existing topography. If any roads are required that would cross major drainages, culverts would be installed of adequate size to allow passage of water during storm events. No drainages are anticipated to be re-routed by ISR disturbance activities.

Solution Pipelines

Solution pipelines for both the solution from the HLP and the solution from the ISR wellfields will be above-ground pipelines and will be installed with emergency shutoff systems spaced on adequate intervals. Instrumentation and control systems will be utilized throughout the entirety of the pipeline system which will rapidly detect any potential pipeline leaks or spills.

3.4 Rock Characterization & Handling Plan

As described in Section 2 above, the Company has a comprehensive Waste Rock Management Plan. This plan will be applied to the material mined during open pit mining of the Lone Wolf pit.

As no rock is extracted via ISR methods, rock characterization and handling is not applicable.

3.5 Quality Assurance Plan

The Company will continue to implement BMPs where practicable within the LLV Plan Boundary. Along with the BMPs listed below, this also includes the commitment of performing concurrent reclamation where feasible within the Active Mine Plan Boundary as mining closes in the Active Mine Plan Boundary and continues in the LLV Plan Boundary. Other concurrent reclamation activities such as the interim seeding of topsoil stockpiles, reduction of surface disturbance of ISR well pads, would also be employed.

Beyond the closure and reclamation of activities within the Active Mine Plan Boundary, and concurrent reclamation within the LLV Plan Boundary, the following measures and controls that will be utilized within the LLV Plan Boundary include such BMPs as:

Good Housekeeping

Good housekeeping BMPs generally refer to ongoing or regular practices that ensure that areas of the facility with a potential to contribute pollutants to storm water are kept clean and orderly. The following good housekeeping practices will be implemented as indicated below:

- Litter is controlled through employee awareness, the use of multiple trash receptacles, and frequent cleanup. A closed trailer is used to store trash until it is transferred to the on-site landfill. New employees are instructed in litter control as part of their initial training. Any wind-blown litter and other debris at the facility are routinely removed.
- Major repairs to, and servicing of vehicles, are conducted at the closed shop building (Truck Shop) located within the existing Active Mine Plan Boundary. Oils are drained prior to servicing using an evacuation system to minimize the opportunity for spills. Used oil is transferred directly from the equipment to a truck-mounted holding tank and transported off-site by a local recycling company. Drip pans and pads are used to absorb small quantities of liquids. A spill maintenance kit is maintained on site and employees are trained in its use, should a spill occur. Any fluids leaking from equipment will be contained. Collected fluids will be discarded or reused in accordance with applicable state and federal regulations. Any fluids that are spilled will be immediately cleaned up and reported as outlined in the Company's Spill Prevention Control and Countermeasures (SPCC) Plan.

- Fueling of vehicles and mobile equipment is conducted using a locking “quick coupler” with an automatic shut off valve to reduce the potential of spills. Fuel tanks are enclosed in metal or concrete containers. A person remains with the vehicle or equipment during fueling in case of an emergency. Absorbents or other clean up materials are available to ensure that any spills are quickly cleaned up.

Sediment & Erosion Control

- Water draining into the pits stay in the pits.
- All topsoil piles are bermed.
- The ore piles are within a bermed area.
- Active waste dumps are bermed along their rims, and have a native vegetation area at their bases to capture run-off, sediment, loose rock, etc.
- Water falling on or flowing down roads drains toward the pits, or toward the turn-outs managed to hold storm water runoff.
- Water falling or flowing on hardened surfaces and facilities areas either infiltrates or collects in sumps, where it evaporates or infiltrates.
- All solvents used in the beneficiation process are contained within a lined and/or concrete area that does not allow for contamination to outside areas.
- Erosion controls will be inspected monthly over the mine area to ensure that they are functioning correctly. Any observed condition requiring maintenance will be attended to immediately.

Preventative Maintenance

Vehicles, equipment, and machinery are maintained in good working condition to minimize the likelihood of discharging fluids. They are serviced on a regular schedule as appropriate. The maintenance intervals and the inspections or work performed are specific to that piece of equipment.

All access roads are topped with a 12-inch to 16-inch layer of road base derived from overburden rock to minimize fugitive dust generation and sedimentation from roads. Active mine roads all drain to either turn-outs or pits via a system of ditches. Ditches are maintained in good condition to reduce erosion and to minimize the amount of sediment transported by storm water.

Spill Prevention and Response Procedures

Filling and emptying of storage tanks and oil drums, as well as the fueling of equipment and material handling, represent the largest potential sources of liquid spills at the facility. Spill cleanup equipment and materials are kept on-site. This equipment includes bulldozers or loaders, absorbent materials, and catch basins or drip pans for leaks. Each person that operates equipment, or is responsible for transferring diesel fuel or oil between vessels, will be trained on spill prevention and response.

In the event of a spill or leak, the following action will be taken:

- The person who discovers the spill will stop the spill or leak at the source, if it is safe to do so. They will contain the spread or migration of the spill by using spill response equipment or by building dirt containment berms.
- The person will then notify the supervisor and the Company's environmental manager or site supervisor.
- The supervisor will report the spill in accordance with the internal reporting procedure outlined in the Company's SPCC.
- Any contaminated soils will be cleaned up and properly disposed of in accordance with state and federal regulations.
- Follow-up investigation will be conducted to determine the cause of the spill, evaluate the Operator's response, and determine if any measures need to be implemented or adjusted.

Inspections

Monthly inspections are and will continue to be performed within all active mine areas. The inspections will include visual inspections of all BMPs in all active areas to ensure that they are operating as intended. The following areas are covered:

- Erosion and sediment control measures are observed to ensure they are operating correctly, such as ditches, sumps, sediment fabric, etc.
- Any evidence of excessive erosion or sedimentation is identified and scheduled for repair.
- Material handling and storage areas are inspected for signs of erosion.
- Crushing equipment, vehicles, and obsolete or unused equipment are inspected to ensure that they are in good condition and are not leaking any fluids.
- Maintenance areas are inspected to ensure that fluids are properly stored within the maintenance shops.

Employee Training

Employees who are responsible for implementing activities identified in this Plan are responsible for aspects of ensuring quality assurance and control. Training occurs on an annual basis with each session occurring no later than 12 months after the previous year's training. This training consists of the components of the quality assurance plan and on the trainee's respective responsibilities under the plan. Additional training topics include spill prevention and response, fueling practices, good housekeeping, and equipment wash down procedures, identification of potential storm water pollution-related issues, and material management practices.

New employees are trained in storm water pollution prevention within one week of their start date. This training consists of:

- A description of the quality assurance plan and its goals;
- Education on surface disturbance and storm water pollution prevention;
- BMPs that may affect the group or an individual employee;

- Spill prevention and response;
- Question and answer; and,
- Other topics considered pertinent during each session.

The training program is reviewed annually and modified as necessary to meet facility conditions.

3.6 Spill Contingency Plan

The Company has an in-place SPCC for the mining and beneficiation performed within the Active Mine Plan Boundary. This SPCC will be applied to the proposed activities within the LLV Plan Boundary. The SPCC includes actions taken for spill response, spill cleanup, disposal procedures, and follow-up response actions:

Spill Cleanup Procedures

- If a large spill occurred or the spill reached a waterway, call a cleanup contractor and they will provide additional equipment to clean up the spill.
- **DO NOT** use water to clear the spill away! Water will mobilize the spill and require additional cleanup efforts.
- Pick up free liquid that has collected in sumps or containment areas with absorbent material. Place free liquid that has been collected in a tank or drums for temporary storage.
- Clean up liquid that has spread over a non-porous surface with absorbent material such as oil-dry or absorbent socks or booms. Collect oil-soaked cleanup materials (e.g., oil-dry, absorbent socks, or booms) and place them in leak-proof containers.
- For spills on gravel or soil, absorb as much of the liquid as possible with absorbent material and then excavate the oil-contaminated gravel or soil down to visibly clean material. Place the excavated material in piles for temporary storage.

Disposal Procedures

An oil spill is not considered cleaned up until all waste produced during the cleanup activities are properly disposed. General guidelines are listed below; however, the exact means of disposal will depend on the nature and volume of contaminated material and whether the material is contaminated with other substances.

- Liquid oil that has been collected should be recycled at an offsite facility, if possible, or disposed of at a regulated and licensed facility.
- Ship oily soil that has been excavated to a landfill or land farm that is permitted to dispose of or treat oil-contaminated soil.
- Dispose of oil-soaked absorbent material in a landfill permitted for this type of industrial waste.

Follow-up Response Actions

Follow-up response actions include conducting an investigation as needed to:

- Determine the cause of the spill;
- Review the response actions that were taken to identify any improvements for response to future incidents; and,
- Determine if any measures need to be implemented to prevent another spill.

- Revise this SPCC Plan to reflect any changes at the facility or in operating procedures that result from an evaluation of the spill.
- Replace all spill cleanup equipment that was used during the cleanup of the spill.

ISR Wellfields & Solution Pipelines

Wellfield features such as header houses, well heads or pipelines could contribute to the pollution in the unlikely event of a release of ISR or HLP solution due to pipeline or well failure. Potential impacts would be minimized by routine maintenance checks of all injection, production, and monitor wells, and hydrostatic leak testing of all pipelines during construction; implementing an instrumentation and control system to monitor pressure and flow and immediately detect and correct any anomalous condition; and implementing a spill response and cleanup program in accordance with State and Federal regulations.

Any release of solution will be contained within the lined pipeline trench or within double-walled pipelines and will report to the nearest process pond. Any breach of the pipeline will be mitigated using sand bags. Contaminated soils from solution will be handled in accordance with the Company's SPCC.

3.7 Schedule of Operations

The Operations will have the following approximate timeline:

1. Continue open pit mining and beneficiation within the Active Mine Plan Boundary: present – 2024
2. Initiation of installation of GTO pilot test well array: Q1, 2021
3. Initiation of construction activities within the LLV Plan Boundary: Q2, 2021
4. Commencement of installation of full GTO ISR wellfield: Q3, 2021
5. Commencement of removing overburden in the Lone Wolf Pit: Q2, 2024,
6. Active open pit mining within the Lone Wolf Pit: 2024 – 2031
7. Closure and reclamation of waste dumps and certain roads within the Active Mine Plan: 2024
8. Commencement of installation of Lone Wolf Extents and/or Flying Diamond ISR wellfields: 2025
9. ISR activities in GTO, Lone Wolf Extents, and Flying Diamond combined: 2025 – 2045
10. Reclamation of Lone Wolf WRS and certain roads: 2032
11. Rinsing of aquifers and final reclamation of structures, HLP draindown, and removal of facilities: 2046 – 2048
12. Post-Closure monitoring: 2048 – 2053

3.8 Plans for Access, Power, Water, & Support Services

The LLV Plan Boundary has access from the Lisbon Valley Road (County Road 313, Figure 3-1). Access off of the Lisbon Valley Road will be from existing roads currently used within the LLV Plan Boundary for exploration purposes, and the construction of new roads. Widening of existing access roads and construction of new roads will be done to widths sufficient for standards of the Mine Safety and Health Administration (MSHA).

Power will be from overhead powerlines that are connected to the substation located within the Active Mine Plan Boundary.

Water for mining and beneficiation will be from the presently installed production wells that are located within the Active Mine Plan Boundary and LLV Plan Boundary. Additional production wells may be drilled depending upon the need of water usage for Open Pit and ISR activities. As the system is a 'closed-circuit',

the loss of water to evaporation or entrainment within materials can be estimated based upon the data collected during the ten years of active mining that has occurred within the Active Mine Plan boundary. This information will be used to estimate the need for additional production wells. As part of the ongoing exploration activities within the LLV Plan Boundary, alternate locations for production wells will be determined.

Support services for the proposed activities will be the onsite fleet of equipment, facilities, and structures within the Active Mine Plan Boundary. Vendors and other sources would be located in surrounding cities such as Moab, Monticello, and Blanding, Utah.

4.0 Reclamation Plan – 3809.401(b)(3)

The reclamation plan for the proposed activities within the LLV Plan Boundary will follow the reclamation plan as set forth in the Large Mining Operations Permit with UDOGM and the 1997 ROD. The current land use in Lisbon Valley is mining, rangeland and wildlife habitat. Post-mining land use will be rangeland and wildlife habitat.

4.1 Drill-hole Plugging

Any exploration and development drill holes will be abandoned in accordance with R647-4-108. Any remaining production and monitoring wells will be abandoned by a Utah state licensed contractor in accordance with R655-4-14. Drill-hole plugging for the ISR wellfields will be performed in accordance with the UDWQ Underground Injection Control permits and EPA Aquifer Exemption Permits, respectively.

4.2 Regrading & Reshaping

The Lone Wolf WRS facility will be completed with breaks in slopes, roughened slopes and maximum slope angle 2.5H:1V. Surface water is diverted around the dumps where possible.

The Company will concurrently reclaim dumps as they are completed. This will include grading to a final contour that maximizes conformance with existing topography. Roughened surfaces are created by ripping along contour to approximately 1.5 feet in depth. The equipment performing the ripping will have a seeder attached to the back to efficiently place the seed in the freshly ripped grooves. Seeding activities will be scheduled for the fall when possible. Rilled areas will be backfilled and repaired as necessary during the mine life.

Final surface reclamation will include the placement of growth media as deemed necessary for the soil types, seeding and revegetation.

All haul roads and roads not deemed essential by UDOGM or the BLM will be reclaimed. Reclamation will include ripping/re-grading, followed by topsoil placement if needed and re-seeding.

4.3 Mine Reclamation & Pit Backfilling

As mining in the Lone Wolf is proposed to be performed in stages, pit backfilling will occur as a natural part of the mine plan. Upon closure of the operations, mine reclamation will include installation of fencing around remaining open pit areas, and berming off access ramps into the pit.

4.4 Topsoil Handling

Growth media will be spread over the waste dumps, leach pad, and accessible in pit haul roads using loaders, haul trucks, bulldozers, and graders. Growth media will be spread as deemed necessary for revegetation success. Pit highwalls and floors will not be covered with growth media.

Growth media will be spread in the same way for all of the reclamation across the site. Waste dumps may have additional roughening to the surface, including dozer basins, ripping parallel to slopes and track packing perpendicular to slopes. The leach pad will have light ripping on the surface and parallel to slopes and track packing perpendicular to slope will be used to create seed beds. Rilled areas will be backfilled and repaired as necessary during the mine life.

Final surface reclamation will include seeding and revegetation to a minimum of 70% of the baseline vegetation cover.

The seeding method will vary and include broadcasting, drill seeding, and aerial seeding with the objective to meet the reclamation standard of 70% of the baseline vegetation cover.

4.5 Surface Water Mitigation

Drainages will be reclaimed and rebuilt at the end of the mine life to maintain drainage continuity and minimize erosion. Sediment traps and erosion control structures, including rock check dams, may be expanded as necessary based on drainage monitoring in accordance with the SWPPP. Culverts placed in the drainages around the site which were installed by the Company and used during operations will be removed as part of the reclamation process.

4.6 Wildlife Habitat Rehabilitation

The Company will work with the local landowners, the BLM, and the State of Utah to ensure a final reclamation plan meets the specifications for wildlife habitat rehabilitation. As the LLV Plan Boundary is generally used for rangeland, it is the Company's goal to ensure post-closure use is focused on maximizing grasses and forbs suitable for the continuation of rangeland use.

4.7 Removal of Toxic or Deleterious Materials

As part of the closure process, all toxic and/or deleterious materials will be removed from site and taken to a designated recycling facility. The Company has a comprehensive draindown plan for the HLP within the Active Mine Plan Boundary. This plan, once proven successful during the closure of the facilities within the Active Mine Plan Boundary, will be utilized for the remediation of the LLV HLP.

4.8 Removal of Buildings, Structures, & Facilities

All buildings not integral to the long-term post-mining monitoring is expected to be removed from site upon closure of operations. Such buildings that may be left in place post-mining would include process ponds for the continued containment of draindown from the HLP and also to act as a concentration point for the rinsing of the aquifers during closure of the ISR activities. Other structures that may remain include certain access roads, fresh water ponds, and overhead powerlines.

4.9 Provisions for Post-Closure Management

Provision for post-closure management will be dependent upon the input from the Federal and State Agencies. Specific provisions to post-closure management in regard to the ISR wellfields will be dependent upon input from the EPA and UDWQ.

5.0 Monitoring Plan Requirements – 3809.401(b)(4)

5.1 Description of Resources Subject to Monitoring Plans

Resources subject to monitoring plans within the LLV Plan Boundary include:

- Monitoring of the success of revegetation on all surfaces in which revegetation was applied;
- Monitoring the drawdown of the HLP;
- Monitoring of the aquifer post-rinsing in relation to the closure of the ISR activities;
- Monitoring of the post-mining diversion channels for runoff control.

5.2 Type & Location of Monitoring Devices

The type of monitoring devices that would be employed post-mining include:

- Monitor wells – located throughout the LLV Plan area;
- Water level sensors – located in the process ponds used for monitoring drawdown of the HLPs.

Monitoring of the revegetation success and the stability of the diversion channels would be performed quarterly by visual inspection.

5.3 Sampling Parameters & Frequency

Sampling parameters for monitoring the groundwater quality would be stipulated by the UDWQ and EPA, as the ground water would be subject to the Aquifer Exemption Permit.

Sampling parameters for monitoring the drawdown of the HLPs would be stipulated by the UDWQ.

5.4 Analytical Methods & Reporting Procedures

Analytical methods and reporting procedures would be determined by the UDWQ and EPA for the sampling and analyses of ground water.

Analytical methods and reporting procedures would be determined by the UDWQ for the sampling and analyses of the drawdown of the HLPs.

5.6 Procedures for Responding to Adverse Monitoring Results

Procedures for responding to adverse monitoring results will be put in place and provided to the Federal and State Agencies prior to commencement of activities that may cause adverse effects to surface and ground water.

5.7 Reliance on other Federal or State Monitoring Plans

The entirety of the post-closure monitoring of water resources is reliant on the UDWQ and EPA monitoring plans.

Post-closure monitoring of revegetation success is reliant on the UDOGM and BLM monitoring plans.

6.0 Interim Management Plan – 3809.401(b)(5)

The Interim Management Plan outlines how the Company intends to manage the project area during periods of temporary closure to prevent unnecessary or undue degradation of the property and associated equipment until the restart of the mine. The interim management plan will be triggered when the Company notifies UDOGM and the BLM of an interim or temporary shutdown of operations.

6.1 Measures to Stabilize Excavations & Workings

The existing and proposed pits have engineered high walls designed for stability. No further actions in the pits will be necessary. Drainages around pits will be maintained to prevent storm water erosion or run-off into these features. Measures to control public access to excavations and workings are described below. Roads, berms, waste dumps, topsoil stockpiles and unused process areas will be seeded once to stabilize soils. Exploration and ISR drill holes will be plugged in accordance with state abandonment procedures.

6.2 Measures to Isolate or Control Toxic or Deleterious Materials

During the commercial and final drain down phases, regulated materials (such as hazardous materials) will be managed in accordance with applicable requirements. Regulated materials that will be used during the shutdown period will be managed as during operations. Aboveground storage tanks will be managed as required by the Company's SPCC Plan. Other structures used to store regulated materials will be emptied or maintained as appropriate.

During the interim shutdown phase, all valves in the fuel and lube island containment structures are left in the closed positions and locked. All cleaning agents, such as WD-40, or Brake Kleen are secured inside flammable container cabinets located inside the locked maintenance shops. Remaining grease and other lubricants are stored inside the covered locked storage area inside their secondary containment. Common household cleaners used for sanitation of the bathrooms are stored in the bathrooms. Remaining regulated materials will be recycled, or disposed of properly.

6.3 Plan for Storage or Removal of Equipment, Supplies, Structures

During the commercial and final drain down phases, the heavy equipment will be removed or remain at the equipment staging area. The keys are removed from this equipment, master switches are turned off, and the cabs are locked to prevent vandalism.

Only necessary buildings and structures will be kept in operation. These will include the SX Control office, Process maintained shop, electrical shop, the lab, the warehouse, the administration office and others on an as-needed basis. Unnecessary buildings will be winterized and locked.

Only necessary supplies will be retained. Supplies will be moved into vacant buildings (such as the warehouse or the truck shop) and locked. Large supplies will remain in their laydown yards where they are currently stockpiled.

During the interim shutdown phase, the Company will remove or secure and store remaining equipment.

6.4 Measures to Maintain the Area in a Safe & Clean Condition

During the commercial and final drain down phases, compliance with Mine Safety and Health Administration (MSHA)'s safety regulations will continue. Regular MSHA inspections are expected to continue. The security measures described in this Plan of Operations will remain in effect.

During the interim shutdown phase, the site and remaining equipment will be secured, trash will be removed, the site will be cleaned and power shut off. The Company will retain a few employees to monitor the site and maintain the sites security features as needed. The site will remain closed to the public. Public access will be controlled by signing, fencing, gates, or berms to warn the public of hazards associated with open excavations or high walls, and unsafe buildings or facilities where chemicals, petroleum products, or reagents are stored.

6.5 Plans for Monitoring Site Conditions during Non-Operation

Upon notice of the Company's intent to temporally shut down the mine, operations will shift to the HLP commercial drain down phase. The remaining copper will be leached with acid and water addition, only as necessary, to maintain proper pH and solution volume for leaching. Retreats will be removed from the leaching circuit over time as the grade reaches a level that is no longer economic. This gradual process allows for natural & forced evaporation to reduce the volume of the leachate and concentrate copper grade. Forced evaporation will include high-capacity evaporation nozzles to evaporate and concentrate the leachate inventory. This phase is engineered and estimated to take up to six years and could be extended. As this phase is coming to completion the volume of leachate in the leach pad is greatly reduced. During the commercial drain down, the Company will complete reclamation in areas where no further disturbance is planned.

In the event the temporary shutdown is to extend beyond the 6-year commercial drain down phase, operations will shift to the final drain down phase. The evaporation of the remaining solution is engineered to take between one to two years. Evaporation efforts will continue until leach solution draining from the HLP evaporates naturally with less than 2 feet in the storm water pond. Drainage from the HLP will be directed to the storm water pond. In the event of a large storm event the storm water pond will cascade overflow into the PLS, ILS and Raff ponds prior to overflowing into the emergency overflow pond. Collected storm water will evaporate naturally. If the Company elects to operate at a reduced volume of leach pad solution, the Company will continue to manage solution pH. During this period, the Company will seed unneeded roads, berms, waste dumps, topsoil stockpiles and process areas, to stabilize soils.

During the interim shutdown the Company will maintain and care for the facilities and site as needed.

The Company will restart full operations when it deems appropriate.

The Company will maintain personnel on site for the HLP commercial and final drain down to maintain equipment, infrastructure, and to provide for ongoing environmental activities, studies, and reclamation. Care and maintenance activities are required during a temporary shutdown so that operations may be efficiently resumed when appropriate. Personnel will remain on site to conduct routine maintenance and inspections, and maintain compliance with requirements in environmental permits and mine plans of operation, as well as exercise key equipment and infrastructure.

During the interim shutdown phase, the Company will retain employees as needed to monitor the site and maintain the sites security features.

6.6 Schedule of Anticipated Non-Operation

The Company does not anticipate periods of temporary closure, but the Company's plans are subject to future copper prices.

6.7 Provisions to Notify the BLM of Changes in Non-Operation Period

The Company will notify both the BLM and UDOGM, as required, when an interim shutdown is planned. The submittal will include an anticipated schedule for the HLP drain down process and an estimated re-start date. If the interim shutdown extends beyond the original estimated re-start date, the Company will notify both the BLM and UDOGM with a new submittal proposing an extension and any updates to the interim management plan.

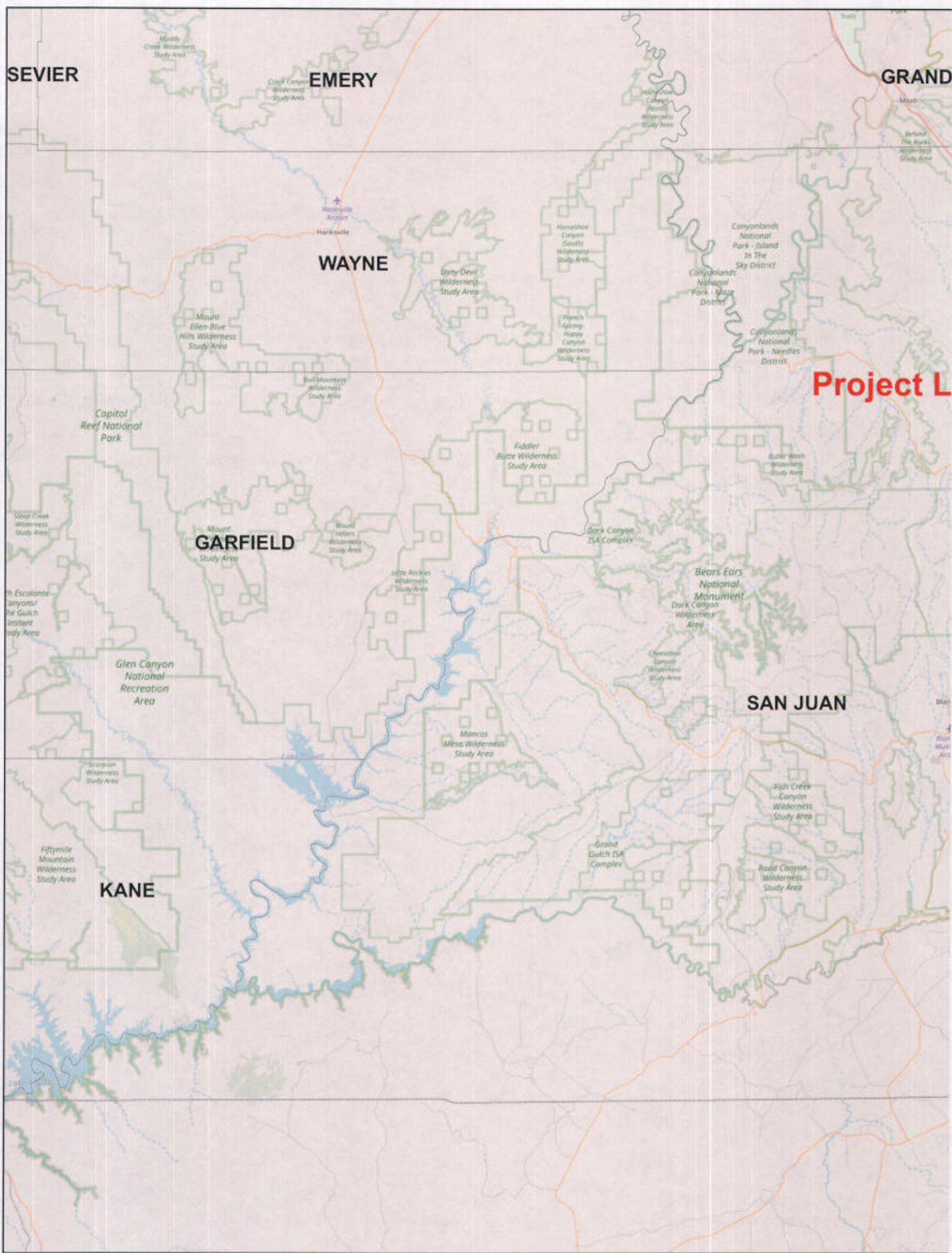
An interim shutdown at the Active Mine Plan Boundary and LLV Plan Boundary would have multiple phases including; i) leach pad commercial drain down when the processing facility continues to produce copper as solution volumes are reduced, ii) final drain down when the remaining solution from the leach pad is evaporated or maintain a reduced volume depending on the circumstances of the interim shutdown, iii) the leach pad is fully drained, the site is clean and secure, and iv) the restart of the mine when the Company restarts mining and processing operations.

Acronyms & Abbreviations

AMA	Active Metal Mining Facility
BLM	Bureau of Land Management
BMP	Best management practices
EPA	Environmental Protection Agency
HLP	Heap leach pad
ILS	intermediate leach solution
ISR	In-situ recovery
LLV	Lower Lisbon Valley
LOM	Life of Mine
MSGP	Multi-Sector General Permit
MSHA	Mine Safety and Health Administration
PLS	pregnant leach solution
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROM	Run of mine
SPCC	Spill Control & Countermeasures
SWPPP	Storm Water Pollution Prevention Plan
SX/EW	Solvent Extraction / Electrowinning
The Company	Lisbon Valley Mining Company, LLC
UDEQ	Utah Department of Environmental Quality
UDOGM	Utah Division of Oil, Gas and Mining
UDWQ	Utah Division of Water Quality
UPDES	Utah Pollutant Discharge Elimination System
WRS	Waste rock storage

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SEVIER

EMERY

GRAND

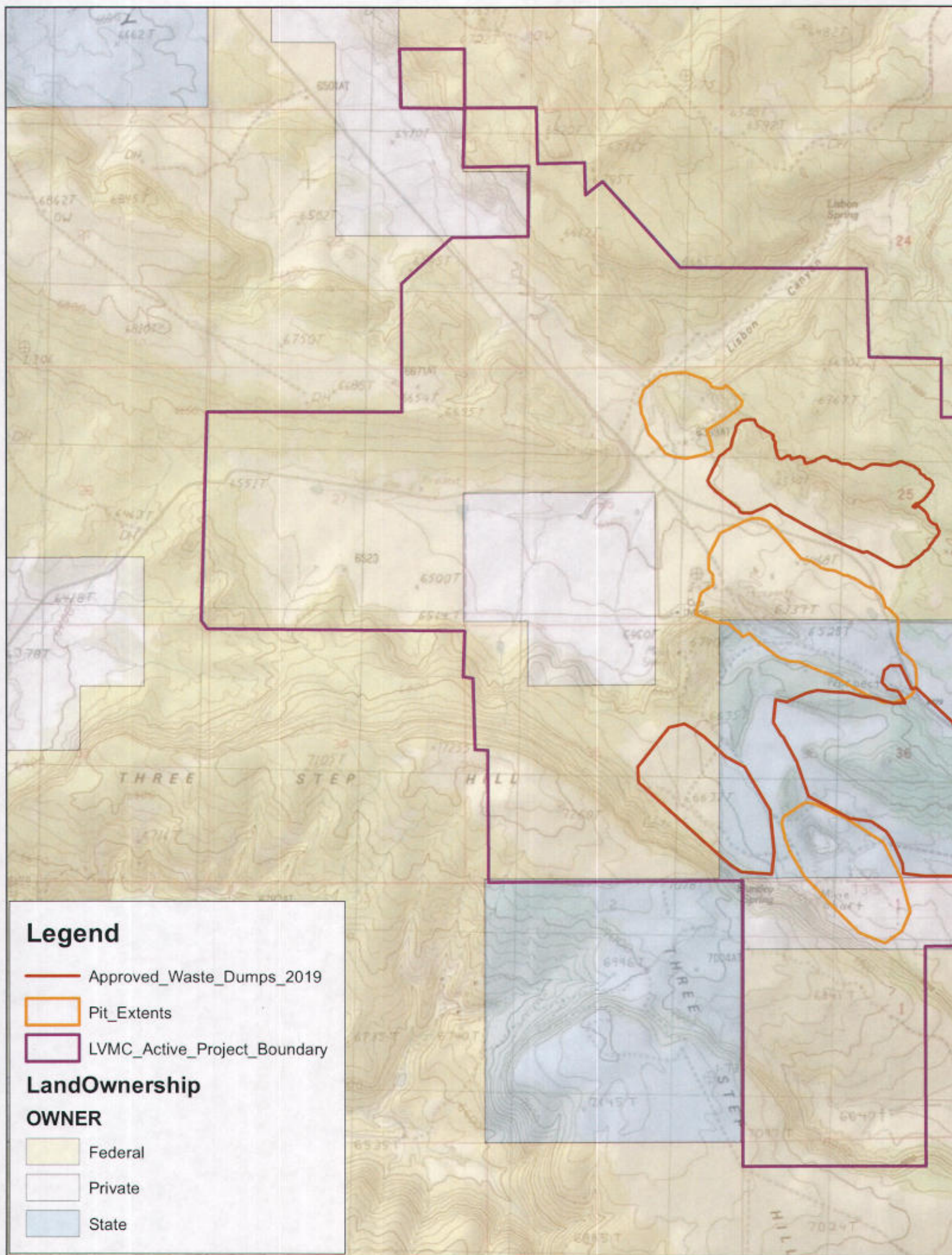
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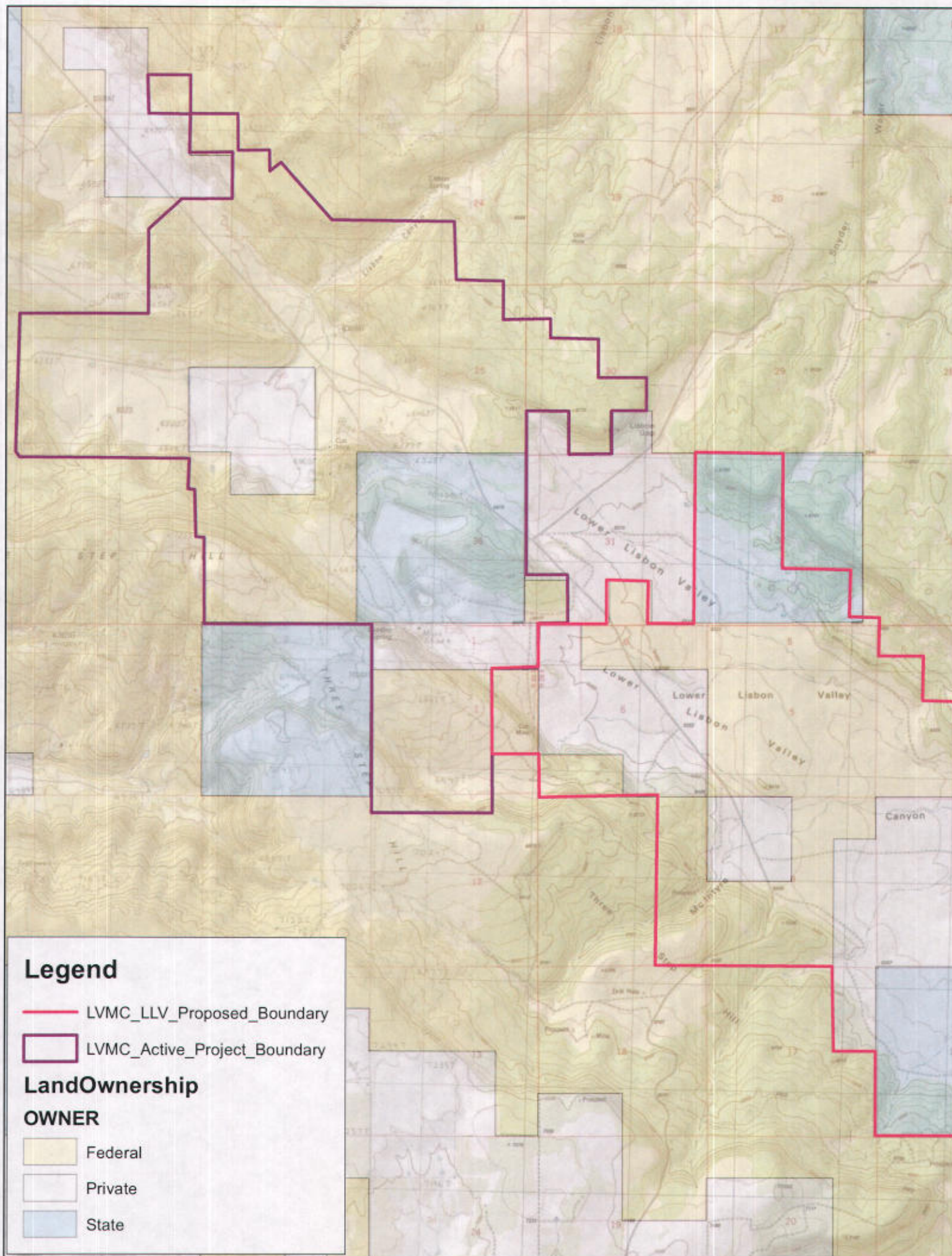
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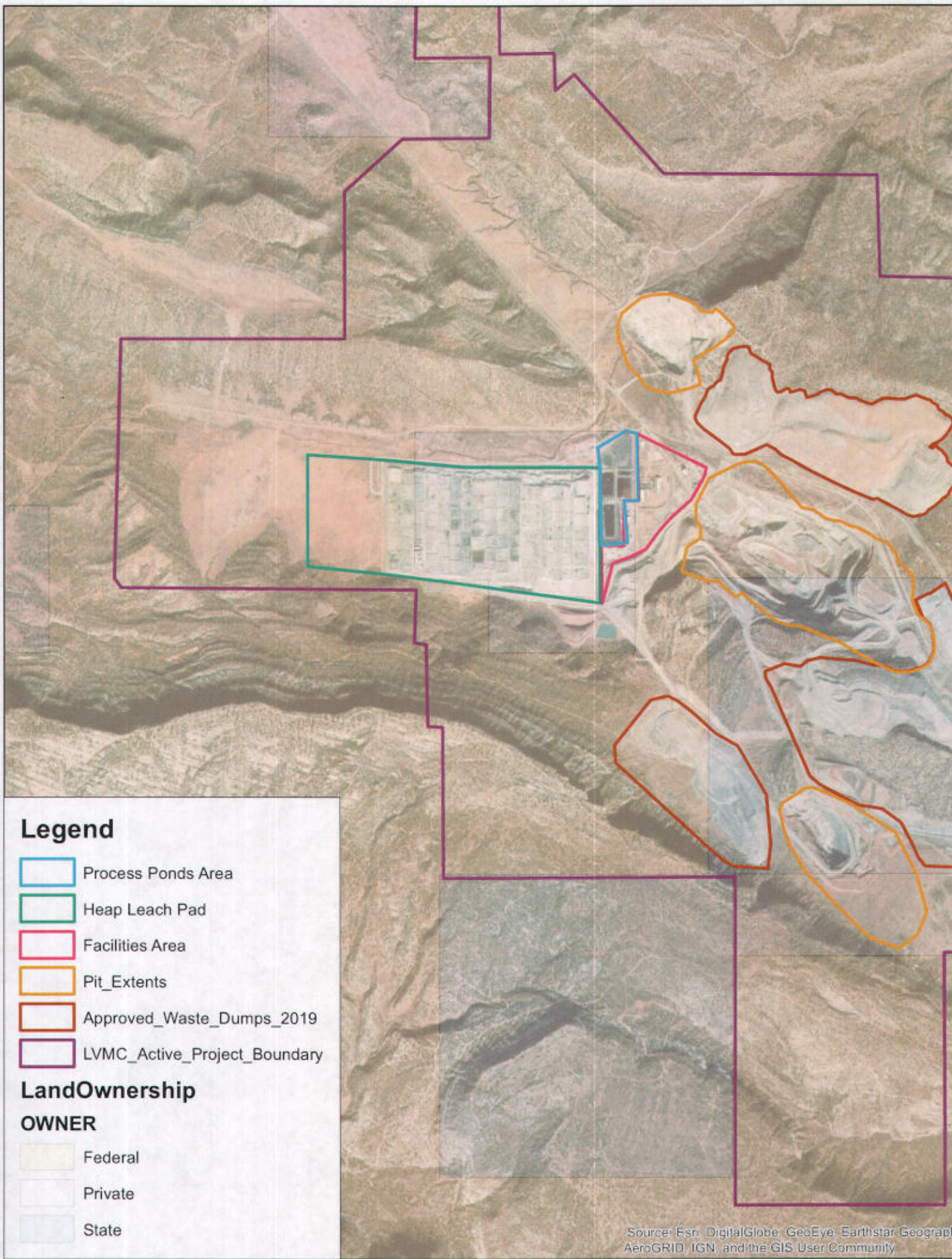
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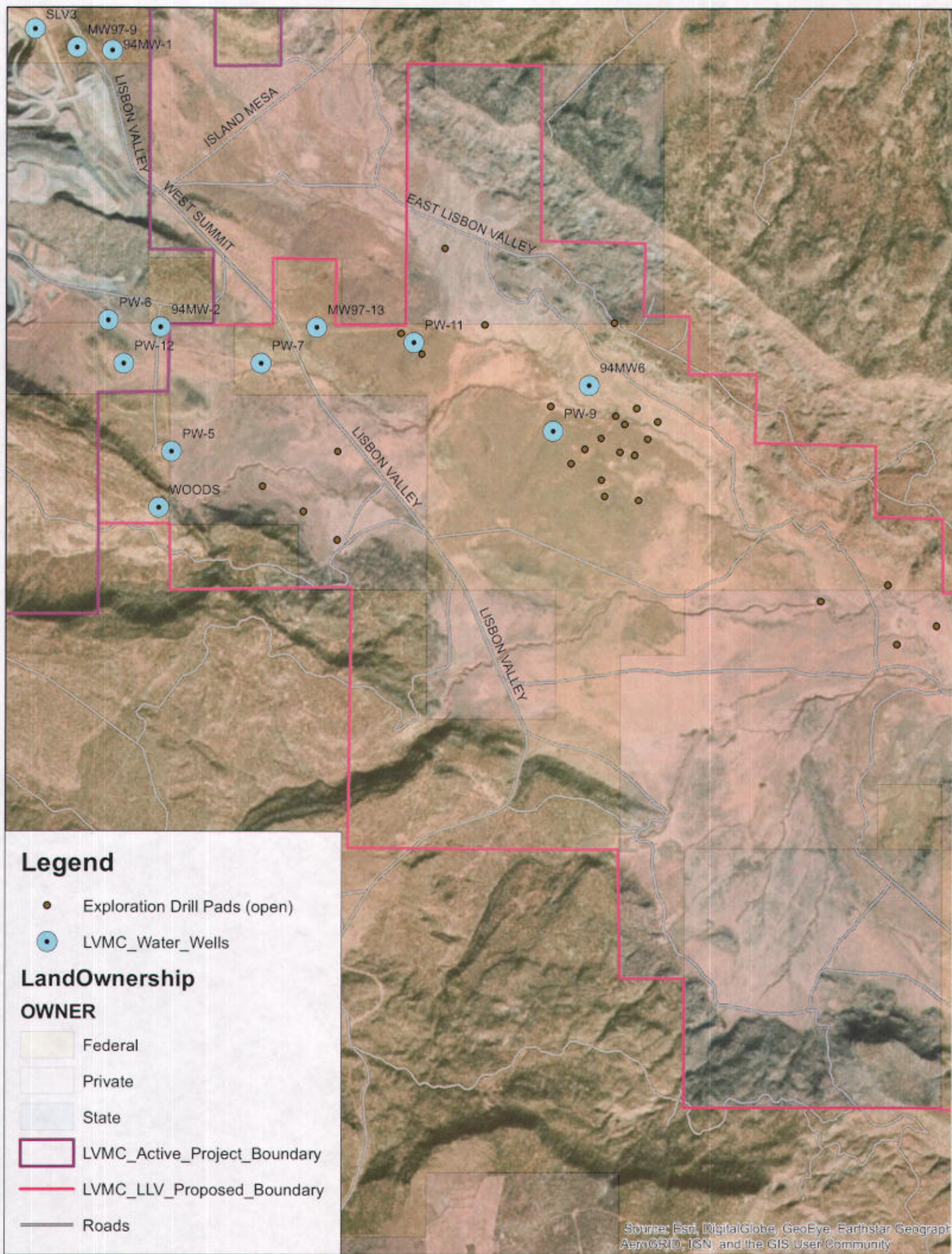
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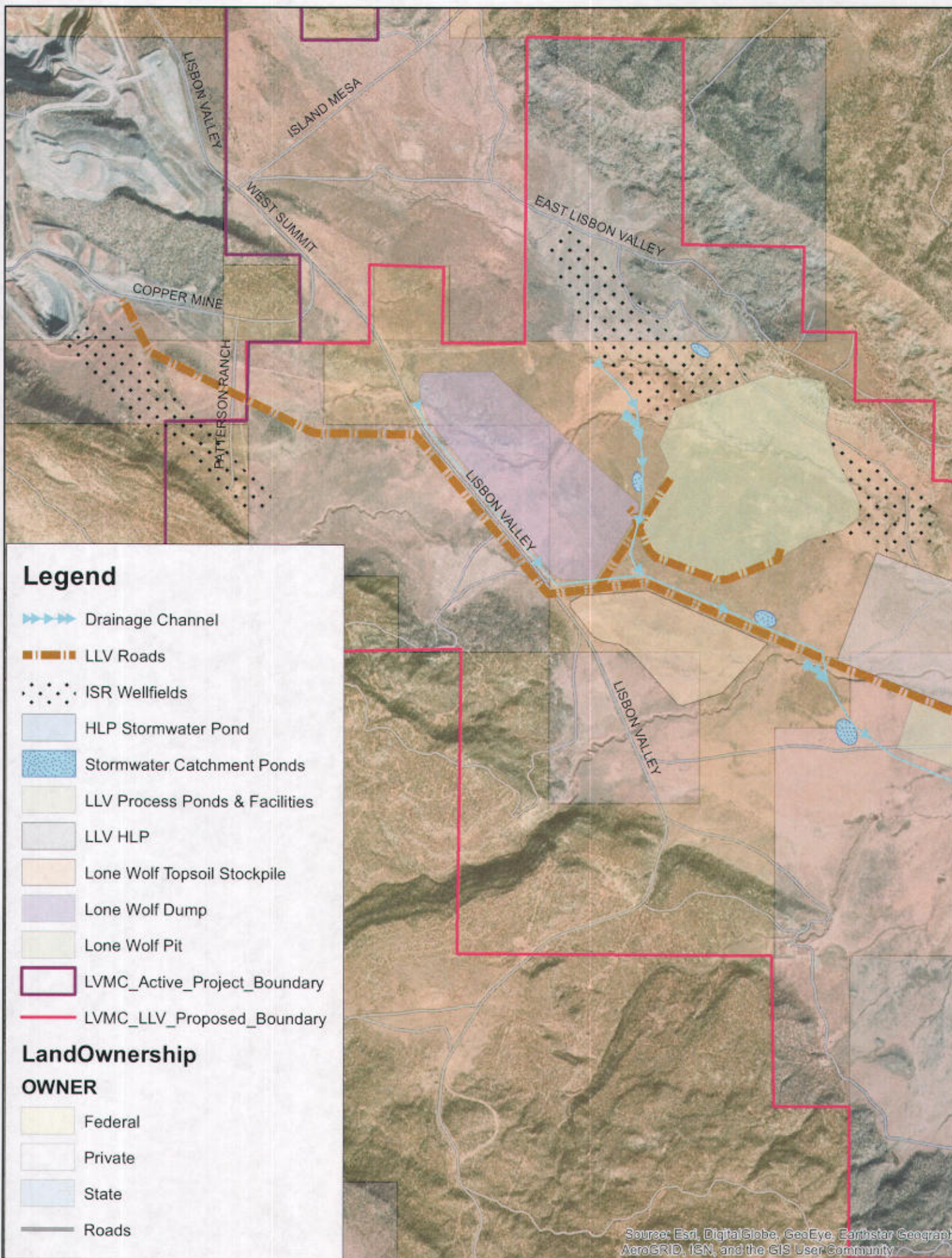
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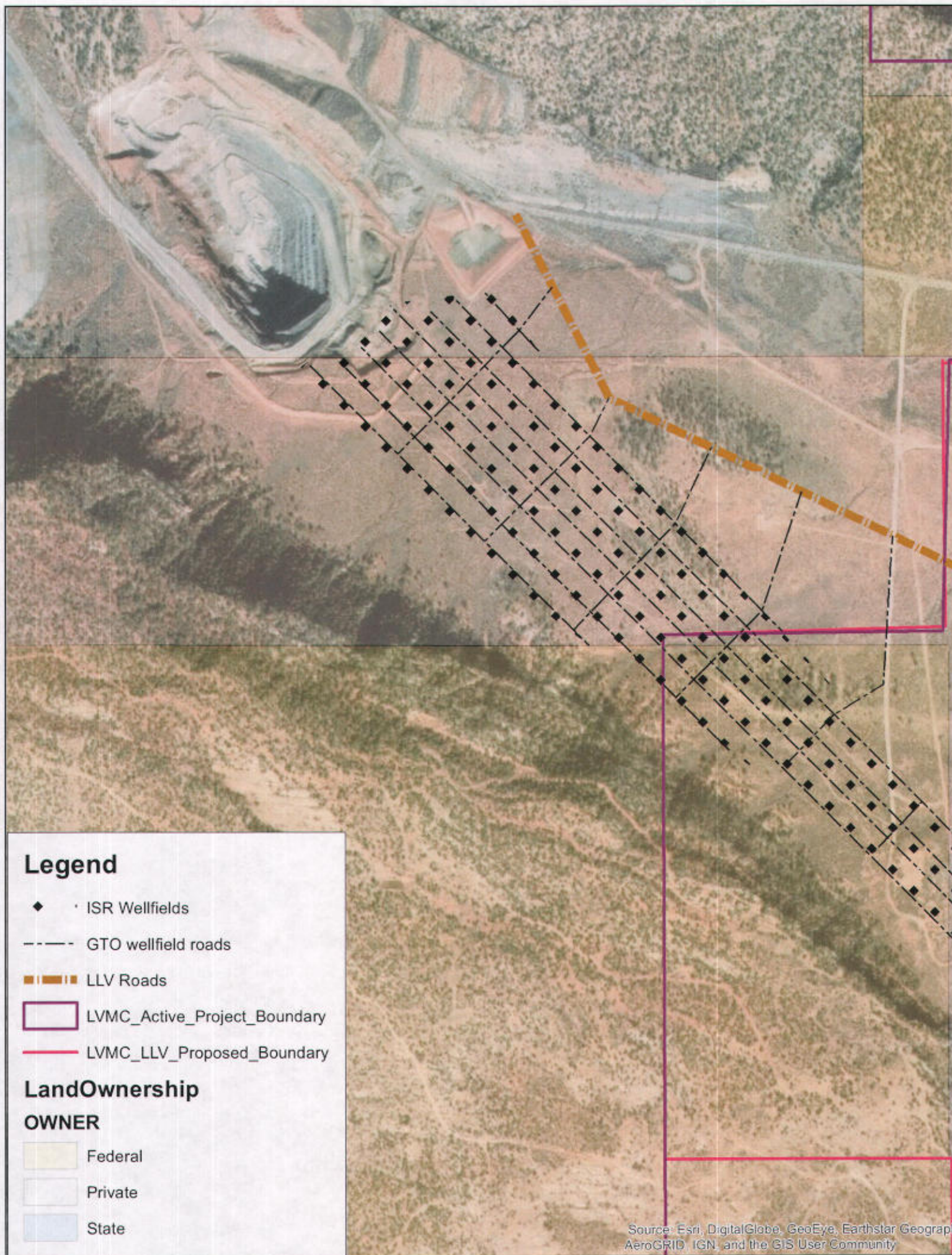












Legend

◆ ISR Wellfields

--- GTO wellfield roads

||| LLV Roads

□ LVMC_Active_Project_Boundary

— LVMC_LLV_Proposed_Boundary

LandOwnership

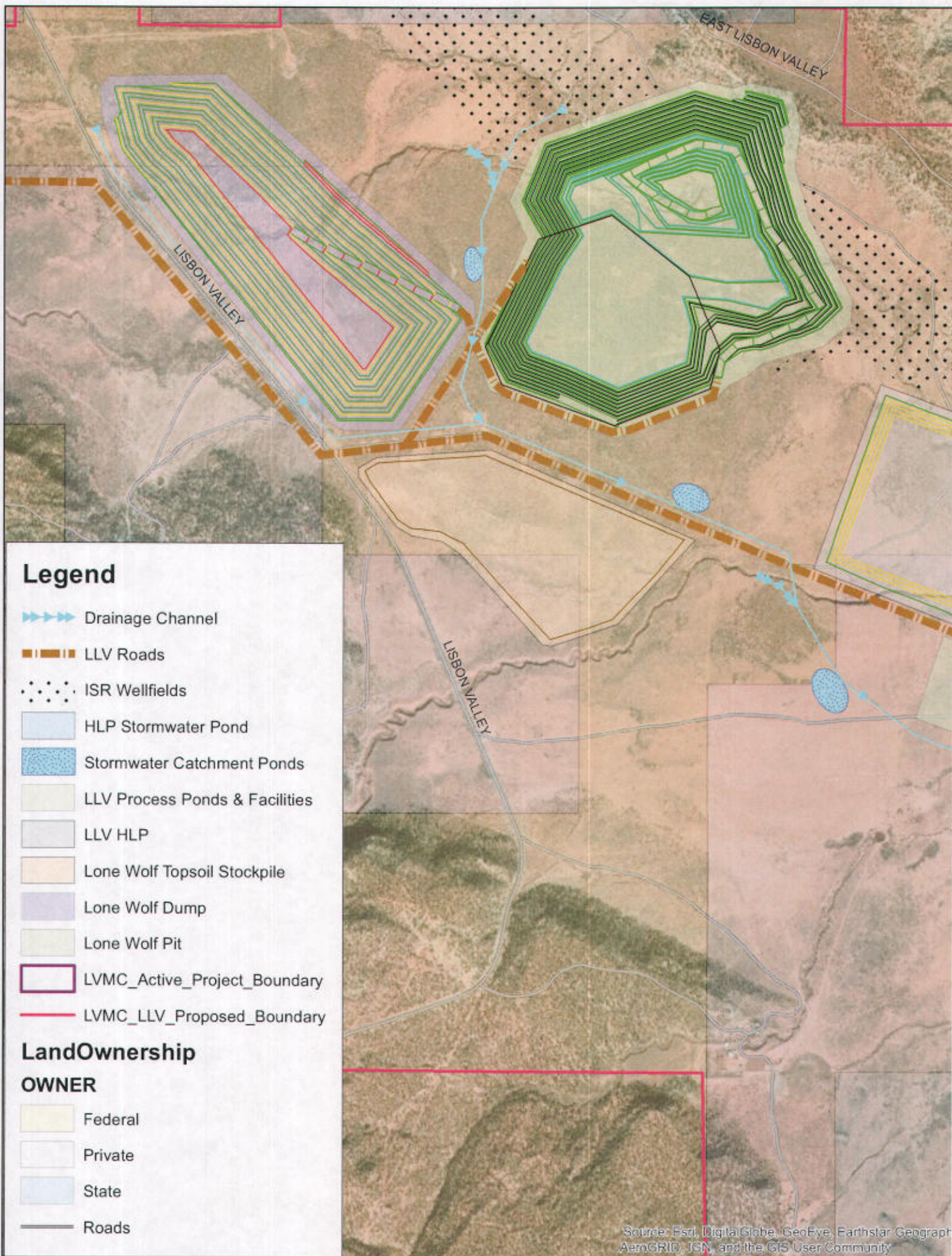
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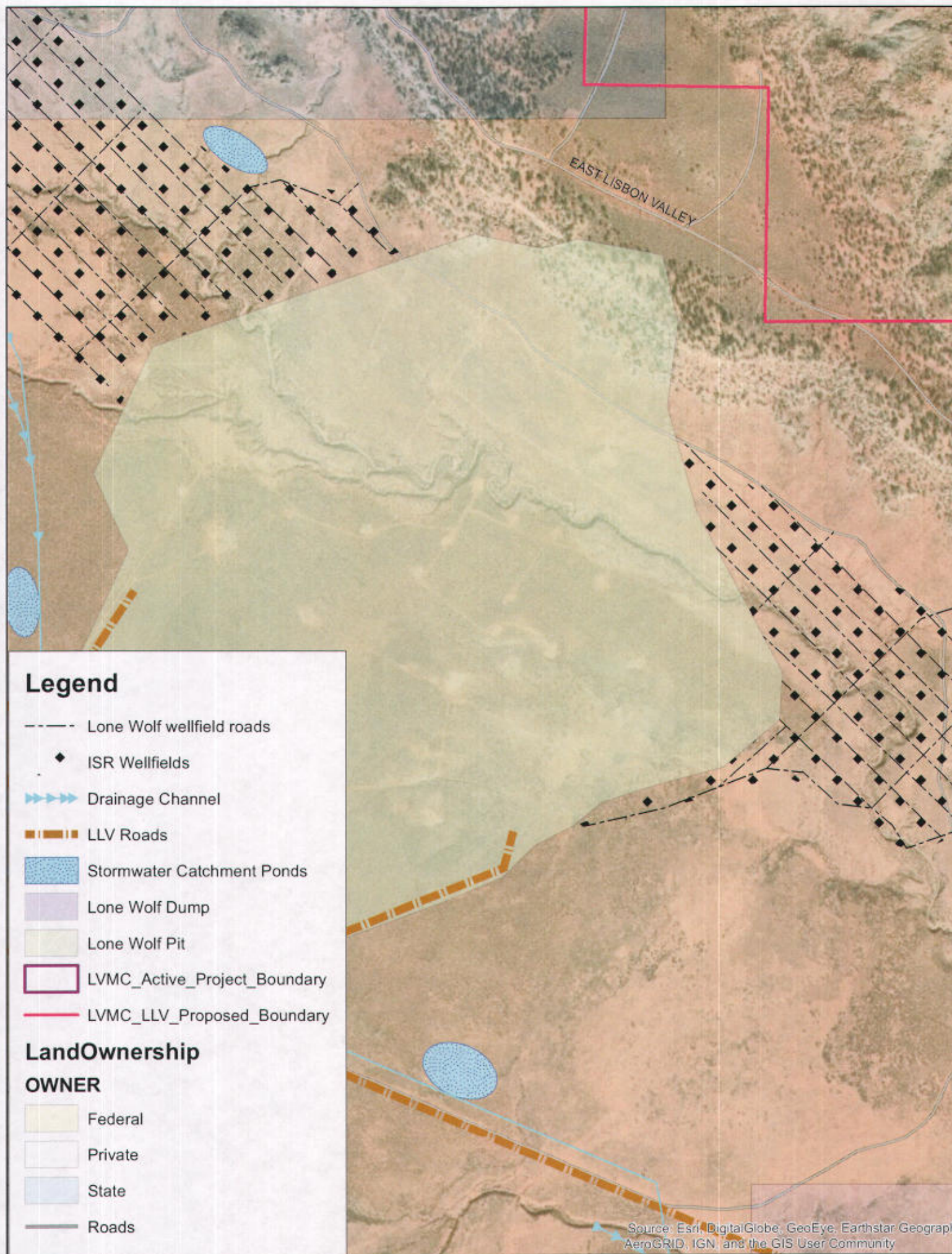
□ Federal

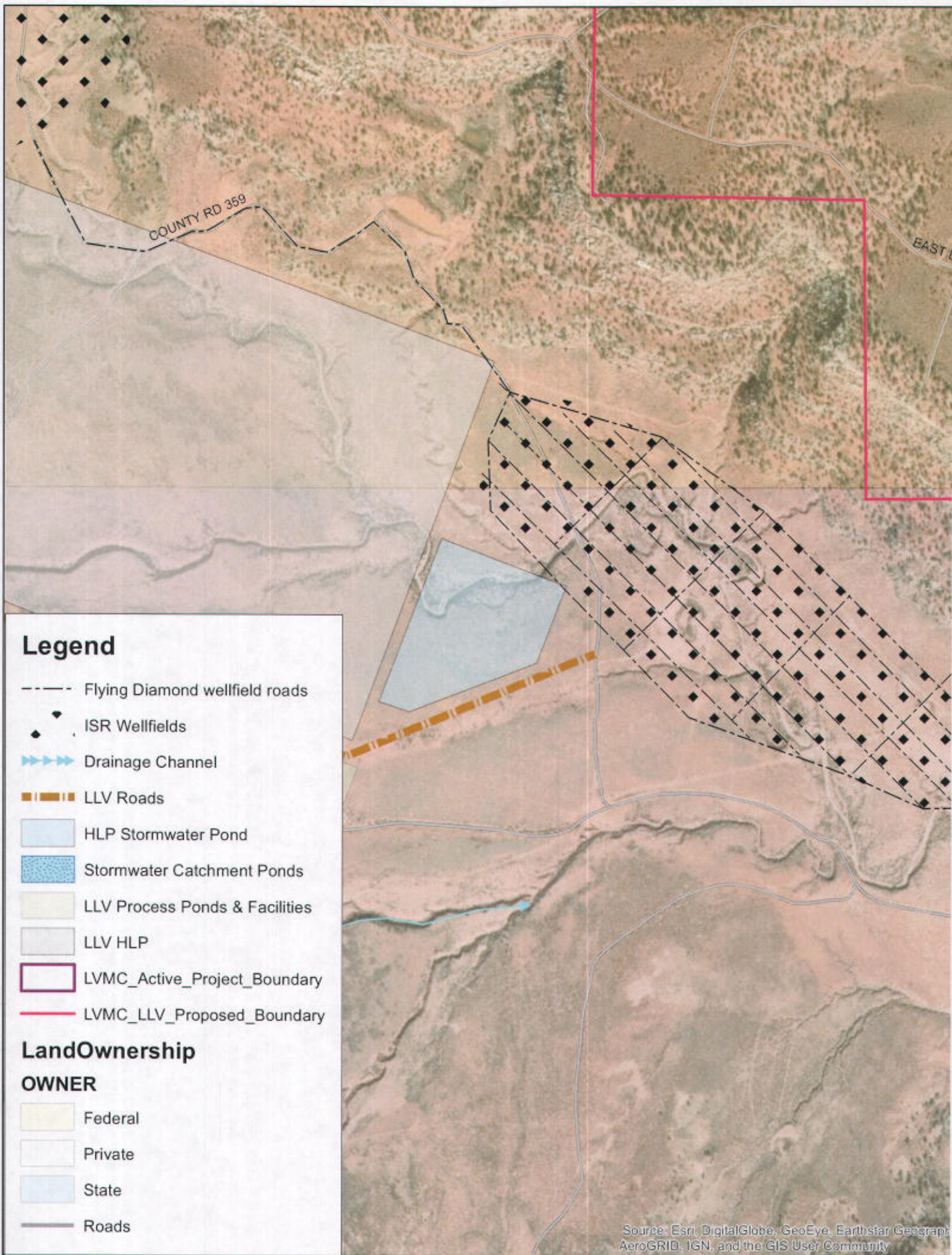
□ Private

□ State

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, AeroGRID, IGN, and the GIS User Community









LISBON VALLEY MINING CO

ALTERNATIVES B & C

Lisbon Valley Mining Company LLC
Lower Lisbon Valley Project

UTU-72499

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1.0 Introduction

As summarized in the Plan of Operations, Lisbon Valley Mining Company (the Company) is proposing to expand its mining operations into the LLV Plan Boundary. The Plan of Operations is provided to the BLM for review as 'Alternative A'. Summarized within this document are alternatives (Alternative B and Alternative C, respectively). These alternatives are being provided to the BLM in order to satisfy the requirements of NEPA review.

2.0 Alternative B (Figure B-1)

2.1 Description of Operations

Proposed Operations

Under Alternative B, the Company is proposing to expand the current operations of open pit mining and beneficiation within the LLV Plan Boundary. The proposed activities that would occur within the LLV Plan Boundary under Alternative B, in addition to ongoing exploration, would include the following components, the disturbances of which are summarized in **Table 2-1** below:

- Open pits;
- Waste rock storage (WRS);
- Storm water diversion channels, sediment basins, and berms;
- Heap leach pad (HLP);
- Solution pipelines;
- Access roads;
- Exploration activities; and
- Ancillary facilities including: power supply; reagent, fuel, ready line; crushing area and related stockpiles; area for temporary storage of petroleum-contaminated soils; ground water monitoring wells; water supply pipeline and facilities; and construction laydown yards.

Table 2-1: Anticipated Disturbance for the LLV Alternative B

Disturbance (acres)	Total Disturbance Acres	Disturbance Acres BLM	Disturbance Acres Private	Disturbance Acres SITLA
Open Pit	400	360	40	-
WRS	585	415	160	10
Growth & Media Stockpiles	85	63	22	-
HLP	340	170	170	-
HLP Storm Pond	24	-	24	-
Solution Ponds	60	-	60	-
Drainage Diversion Channels & Overflow Ponds	20	12	8	-
ISR Wellfields	-	-	-	-
ISR Roads & Pipeline	-	-	-	-
Ancillary Facilities	55	25	30	-
Primary Access Roads	80	35	40	5
Exploration (ongoing)	60	25	30	5
TOTAL	1,709	1,105	584	20

The Alternative B has an anticipated mine life of up to 12 years.

Of the anticipated disturbance, only a fraction would be considered permanent. **Table 2-2** summarizes the proposed disturbances by anticipated duration: